

aligning the metal side tube with the stem plate so that an outer surface of the metal side tube is flush with an edge surface of the stem plate; and

fusing the metal side tube to the stem plate at a point of contact between the metal side tube and the stem plate by laser welding or electron beam welding to form an airtight vessel.

4. (Twice Amended) A photomultiplier tube comprising:

a faceplate;

a photocathode for emitting electrons in response to light incident on the faceplate;

an electron multiplying section, disposed inside an airtight vessel, for multiplying the electrons emitted from the photocathode; and

an anode for outputting an output signal based on the electrons multiplied by the electron multiplying section, wherein the airtight vessel comprises:

a stem plate for fixedly supporting the electron multiplying section and the anode with stem pins;

a metal side tube with the stem plate fixed on one open end, and enclosing the electron multiplying section and the anode; and

the faceplate fixed on the other open end of the metal side tube,

wherein the stem plate is welded on the one open end of the metal side tube, a top surface of the stem plate contacting a bottom end of the metal side tube such that an outer surface of the metal side tube is flush with an edge surface of the stem plate, at least a portion of the top surface of the stem plate in contact with the metal side tube being formed of metal.

10. (Twice Amended) A radiation detector comprising:
- a scintillator for emitting fluorescent light in response to radiation generated from an object of analysis;
 - a plurality of photomultiplier tubes, each having a faceplate disposed in opposition to the scintillator, for outputting electric charges based on fluorescent light emitted from the scintillator; and
 - a position calculating section for performing calculations on the electric charges output from the plurality of photomultiplier tubes and outputting positioning signals of radiation issued in the object of analysis,
- wherein each of the plurality of the photomultiplier tubes comprises:
- a photocathode for emitting electrons in response to light incident on the faceplate;
 - an electron multiplying section, disposed inside an airtight vessel, for multiplying the electrons emitted from the photocathode; and
 - an anode for outputting an output signal based on the electrons multiplied by the electron multiplying section, and wherein
- the airtight vessel comprises:
- a metal stem plate for fixedly supporting the electron multiplying section and the anode with stem pins;
 - a metal side tube with the metal stem plate fixed on one open end, and enclosing the electron multiplying section and the anode, wherein the metal stem plate is fixed by welding to the metal side tube such that an outer surface of the metal side tube is flush with an edge surface of the stem plate; and
 - the faceplate fixed on the other open end of the metal side tube.